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Determinants of top management's capability to identify core employees



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Abstract Despite the increasing academic interest, the human resource management formulation process still remains unclear. Building on human capital and talent management literatures, this study investigates how top management teams identify critical human resources. The proposed model explores how top management teams' ability to identify core employees is conditioned by two human capital attributes of their members (cognitive skills and value orientation). The empirical analysis developed confirms the influence of human capital. Nevertheless, results only provide partial support to our hypotheses, showing that the identification of critical human resources is more complex than theoretically assumed. The estimation of the proposed model shows that, to efficiently develop this process, top management teams require the combination of rational and creative skills, as well as a collectivistic orientation. The implications of this conclusion for both academics and practitioners are discussed in the paper, as well as the limitations of the study.

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Introduction

Extant SHRM literature does not offer clear conclusions regarding how HRM influences firm performance (Lengnick-Hall et al., 2009; Guest, 2011). To move forward, a new perspective is required: a process focus instead of the traditional SHRM content perspective (Monks et al., 2013).

This approach allows study of internal dynamics by which HRM strategies are defined and subsequently implemented. Accordingly, HRM formulation can be defined as a strategic process, consisting of different phases developed by top management teams. Wright et al. (2004) described this process, which starts with generic strategic stages (*environmental scanning* and *strategic issue interpretation*) and finishes with HRM-specific activities (*critical human resources identification*, *definition of the strategic HRM orientation*, and *HRM communication*). As it can be observed, the identification of critical human resources plays a central role in the process, connecting strategic analysis with HRM decisions. In fact, as Clardy (2008a,b) argued, this

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analysis is required to assess the viability of projected business strategies, as it allows to evaluate to what extent the human capital available in the firm cope with the required strategic capabilities. Critical HR identification has been described by [Cooke et al. \(2013\)](#) as the first step in the talent management process. Different authors have even considered it as one of the most relevant challenges that modern HRM should address ([Collings and Mellahi, 2009](#); [Strack et al., 2010](#)). Because of the complexities of the process and the difficulties found in the identification and evaluation of core competencies, top managers do not always achieve expected results ([Chen and Chang, 2010](#)). As [McDonnell et al. \(2010\)](#) explained, this effect can be particularly harmful for the organization, as it can make managers fail to understand where the talent resides within their organizations, and where they can find the human capital required to implement designed business strategies.

Previous literature has identified a number of factors that affect the development of the different stages of the strategic formulation process. Among them, empirical studies have emphasized the relevance of human capital attributes. As [Hambrick and Mason \(1984\)](#) explained, strategic decision-making processes are a reflection of managers' values and cognitive bases ([Hambrick and Mason, 1984](#)). Following [Joyce and Slocum \(2012\)](#) we assume that the identification of critical human resources needs to be developed at the top management team, which is the unit responsible for creating and sustaining strategic human capital. Therefore, its composition, in terms of human capital attributes will have a relevant influence, determining team's ability to identify core employees. Deepening this effect, the paper contributes to the literature in three different ways. Firstly, exploring the conditions under which top management teams are more capable to identify strategic human capital. To do so, and drawing on [Hambrick and Mason \(1984\)](#), we assume that top management team's capability to identify core employees will be determined by two characteristics of their members: cognitive schemas and value structures. The first element will allow us to examine how the process is conditioned by top management teams' capabilities to process, interpret, and elaborate information ([Hodgkinson, 2003](#)). On the other hand, by analyzing values, we will examine how the process is affected by managers' patterns of beliefs and relational values. As an analytical and decision-making activity, the identification of core employees will also be affected by the way managers relate and communicate each other ([Ramamoorthy and Flood, 2004](#)). A second contribution of the paper lies in the analysis of the HR strategy formulation process. In this sense, critical HR identification is presented as one of the stages of a broader process, in which different decisions and actions are developed. Finally, the proposed research will also contribute to previous literature by providing an alternative explanation of the HRM-performance relationship, adopting a process perspective instead of the traditional content focus.

To conduct the analysis, the paper will be organized as follows. First, we review extant literature on SHRM, to explain the role of the critical human resource identification in the HRM context. In the second section of the paper, we focus on TMT human capital composition, analyzing cognitive abilities and team values. Finally, we propose a model,

which is empirically tested applying Partial Least Squares (PLS) modeling. Conclusions and limitations of the study, as well as the future research lines derived from our discussion are presented in the last section of the paper.

Literature review

Critical human resources identification during HRM strategy formulation

Considering previous arguments, we can define critical human resources identification as one of the steps of HRM formulation process. As [Joyce and Slocum \(2012\)](#) have explained, this activity needs to be developed on the basis of the information gathered in previous stages of the process, in which top managers evaluate the strategic issues that need to be responded, and the organizational capabilities required to do so. Because of its importance, critical HR identification should not be erratic, but a structured and formalized process ([Collings and Mellahi, 2009](#); [Nijs et al., 2013](#)). In this line, some studies suggest that formalized processes encourage efficient internal analyses ([Apospori et al., 2008](#)), allowing top managers to better identify the required human capital ([Doving and Nordhaug, 2010](#)). Thus considered, critical HR identification can be defined as a systematic process whose main purpose focuses on detecting high potential and/or high performing employees in a specific organization. As [Iles et al. \(2010\)](#) state, this assessment cannot be abstractly developed. It must respond to the strategic needs of the organization and help to support its strategic capabilities.

Once the object of analysis (i.e., core employees) is clarified, we specify the process and criteria through which managers assess and evaluate the skills, abilities, and knowledge that those employees offer to an organization (strategic human capital). As it has been defined, the analysis of critical human resources starts from the premise that not all employees possess the same potential to develop core organizational activities, and some perform support actions that do not add strategic value to a firm. [Lepak and Snell's \(2002\)](#) HR architecture model summarize the criteria to evaluate individuals' strategic potential in two categories –strategic value and uniqueness–, which help to evaluate how employees contribute to the creation of sustainable competitive advantages. Regarding the first attribute (value), the authors argue employees contribute to organizational core competencies when they improve efficiency and effectiveness, explore new opportunities, and mitigate threats ([Lepak and Snell, 2002](#), p. 532). The strategic value of core employees can be identified by assessing three criteria: (1) their contributions to cost reductions, (2) improvement of customer satisfaction, and (3) quality ([López-Cabrales et al., 2006](#)). Moreover, unique workers possess idiosyncratic human capital and they are especially difficult to replace because of the singularity of their competences and its fit with organizational structure. Therefore, human capital uniqueness can be assessed by examining two aspects: (1) the degree to which employees are irreplaceable and, (2) the extent to which their abilities cannot be duplicated ([López-Cabrales et al., 2006](#)). Following [Lepak and Snell \(2002\)](#) we can conclude that employees

showing high levels in both criteria can be identified as strategic human capital.

Advancing in this line of research, [Hafeez and Essmail \(2007\)](#) described the process through which top management teams assess strategic human capital within their organization. According to these authors, critical HR identification can be described as a three-stage process: (1) definition of the human capital required by the organization to cope with strategic needs. This first step means specifying an "ideal" set of skills and competences, necessary to implement the desired organizational strategy; (2) assessment of available human capital, evaluating the actual and potential contribution of employees, their cohesiveness, and the uniqueness of their individual skills and competences ([Clardy, 2008a](#), p. 394); (3) analysis of how skills and competences are individually distributed within the organization, and how organizational structure and policies influence the way in which employees deploy their skills.

The criteria and the process described above help the organization to build its competitive advantage on a solid basis of human capital, which is not only valuable for the firm, but also unique and difficult to replicate ([Lepak and Snell, 2002](#)). Strategic literature widely acknowledges that competitive advantages have gone from being supported by generic resources to depending on idiosyncratic capabilities, created from key employee competencies ([Soderquist et al., 2010](#)). As [López-Cabral et al. \(2006\)](#) pointed out, a relationship between micro and macro levels exists, so competitive advantages need to be described by aggregating critical employee skills, abilities, and knowledge. In this line, [Soderquist et al. \(2010, p. 327\)](#) argued that "integration of HRM policies and systems with the explicit objective of creating fit and alignment between individual competences and organizational capabilities plays a central role for sustained competitive advantage".

Trying to deepen the analysis of this process, the next section of the paper will discuss how managers' cognitive attributes and values affect the way in which they identify strategic human capital ([Joyce and Slocum, 2012](#)).

Top management's human-capital composition

As it was mentioned, previous literature recognizes that the development of strategic processes, as core employee's identification, is highly dependent on the characteristics of top management teams ([Collings and Mellahi, 2009](#); [Joyce and Slocum, 2012](#)). Their characteristics will determine success in strategic decision-making processes, affecting the efficiency of strategic formulation dynamics ([Hambrick and Mason, 1984](#)). Assuming this line of reasoning, we conclude that, to fully understand how organizations identify their core employees, it is necessary to explicitly consider the human capital composition of the top management team itself.

Previous literature does not offer clear recommendations regarding the most appropriate human capital profiles to develop strategic processes ([Wright and McMahan, 2011](#)). Depending on the process under analysis, researchers present diverse combinations of human capital attributes ([Milliken and Martins, 1996](#)). Because of this reason, we

opted to build our own human capital construct, considering the objectives of our study and the particularities of HRM formulation processes. Drawing on previous literature, we started our definition of top management teams' human capital by introducing job-related attributes, specifically cognitive abilities at the group level ([Schultz, 1971](#); [Becker, 1975](#)). This choice is justified because of the importance of the cognitions for the identification of critical employees, which implies intense perceptions and information processing ([Hough and Ogilvie, 2005](#)). Considering the highly discretionary nature of managerial work, we completed the human capital construct by introducing top management values structure ([Lin, 2001](#)), with which we assess whether relational aspects condition purely cognitive processes.

Influence of top management team's cognitive style

Cognitive styles refer to disparities in the ways people perceive, interpret, think, and solve problems ([Witkin et al., 1977](#); [Gallén, 2006](#)). These mental schemas are key elements of information processing ([Hunt et al., 1989](#)). Despite the rapid evolution of cognitive research, the definition and characterization of cognitive styles is still an on-going debate ([Armstrong et al., 2012](#)). Authors define cognitive style as a one-dimensional construct, considering the traditional differentiation between rational and intuitive profiles ([Allinson and Hayes, 1996](#)). The first extreme of this continuum, rationality, describes a cognitive profile characterized by analytical competences, deduction, convergence, formality and criticism. In the opposite side, intuitiveness (or creativity) refers to synthetic, inductive, communicative, divergent, informal, diffuse and creative attitudes. This conceptualization assumes that both concepts are polar; individuals deploy either an analytic or inductive approach ([Sadler-Smith, 2004](#)). Following this one-dimensional focus, a manager is either rational or intuitive, and group cognitive style depends on the predominant style.

On the other hand, various studies defend a multidimensional approach to defining cognitive styles, considering that one-dimensional definitions possess both theoretical and empirical limitations ([Cools and Van Den Broeck, 2007](#)). These models argue that cognitive styles are too complex to be explained with a continuum, and individuals might manage alternative cognitive profiles ([Hodgkinson and Sadler-Smith, 2003b](#)). Analytic and creative mental schemas operate as separate dimensions, which can be developed simultaneously to gather, interpret, and process information ([Coffield et al., 2004](#)). According to previous arguments, the multidimensional focus is used in our human capital construct by introducing rational and creative cognitive styles as independent dimensions.

As it was explained before, critical HR identification requires top management teams to examine human competencies exhaustively, assessing their value and uniqueness, and how they connect to organizational strategic requirements. This process should be therefore based on the information gathered by top management teams in previous strategic analyses, in which they define strategic priorities and the organizational capabilities required to cope with them.

The critical HR identification process should start with an analysis of actual competences, which top management

teams will confront with the intended strategy. [Mirabile \(1997\)](#) argues that a traditionally primary pitfall of competency analysis is the high subjectivity associated with the process. Recent empirical studies confirm that managers and HR executives prefer more subjective evaluation of strategic human capital. In this sense, they trust on their ability to “see” talent on the basis of their experiences, intuition and “gut-feelings” ([Wiblen et al., 2012](#)). This preference implies the deployment of creative cognitive profiles, increasing subjectivity, lack of transparency and applicability to the whole organization. From this perspective, strategic value and uniqueness is assessed by observing employees’ activities and behaviors at work. This implies the use of subjective and non-standardized criteria, leading to volatile results ([Wiblen et al., 2012](#)). Considering these arguments, we propose that:

H1a. A creative cognitive profile influences top management team’s capability to identify critical human resources negatively.

Because of the limitations of creative cognitive profiles, mechanisms should be designed to ensure consistency in the identification of core employees ([Busine and Watt, 2005](#)). We argue that rational cognitive profiles defined as analytical and formal are more efficient when developing this type of comprehensive process, because of different reasons. Managers usually elaborate universal and standard lists of capabilities ([Hall, 1993](#); [Chen and Wu, 2007](#)). A rational style improves development of this type of task since it lends itself to detailed evaluations and meticulous analysis of reality ([Cools and Van Den Broeck, 2007](#)). The rational process is normally assisted by formal procedures (as guides, surveys or technologies) to specify and assess core competencies ([Chen and Wu, 2007](#); [Wiblen et al., 2012](#)). As [Campion et al. \(2011\)](#) have recently stated, the implementation of traditional job analysis methods can help to identify core employees. To be efficiently applied, these practices demand rational skills, providing the process with the rigor of a methodological approach. Rational mental schemas facilitate the use of these tools to understand, recognize, and assess core competencies ([Allinson and Hayes, 1996](#)). Moreover, more systematic processes may lead managers to create a shared understanding of what it is considered *strategic* human capital, or even build an accessible “core employees” database ([Snell, 2008](#)). Additionally, it may provide executives with real-time metrics, analytics and data about organizational human capital assessments ([Williams, 2009](#)). This type of analyses will help top management teams to link strategic capabilities to core employees and firm performance. Considering previous arguments, we conclude that a rational and analytical approach will benefit top management teams’ capability to identify core employees. Therefore:

H1b. A rational cognitive profile influences top management team’s capability to identify critical human resources positively.

Influence of top management team’s value orientation

The literature traditionally defines core competency identification as a cognitive process, which involves data gathering and information processing activities ([Lepak and Snell, 2002](#);

[Clardy, 2008a](#)). [Yang et al. \(2006\)](#) suggest to go a step further, providing a more complex description of the process by considering the role of other non-rational determinants of information processing and decision-making. The literature on organizational value structures highlights the importance of personal beliefs, behaviors, and motives, and how they influence group dynamics ([Feather, 1995](#); [House et al., 2004](#); [Zhou and Shi, 2011](#)).

Although different studies offer diverse typologies of managerial values, we focus on individualism and collectivism because of two reasons: (1) the demonstrated influence of these values in decision-making dynamics and (2) its dyadic nature, which facilitates combination with the cognitive style attribute, and a more parsimonious building of the human capital construct.

Individualism-collectivism orientations have traditionally occupied opposite ends of a continuum, adopting a one-dimensional point of view ([Gibson and Saxton, 2005](#); [Illies et al., 2007](#)). This focus has led researchers to assume that managers will only show autonomous (individual) or collaborative (collectivistic) behaviors, but never both simultaneously ([Gibson and Saxton, 2005](#); [Illies et al., 2007](#)). As it also happened with cognitive styles, the complexity of the effects of individualism and collectivism made scholars reconsider their one-dimensional approach. In fact, recent studies provide a deeper examination of individualistic and collectivistic behaviors, confirming that they are independent concepts ([Tyran and Gibson, 2008](#)). A manager’s tendency toward one extreme does not necessarily imply low preference for the other in certain situations.

Following the logic applied to the cognitive dimension, we introduce individualism and collectivism in our model as independent categories by assuming they are distinct orientations. Individuals and groups can change values orientation, depending on the task they are developing ([Hodgkinson and Sadler-Smith, 2003a](#); [Coffield et al., 2004](#)). As the literature states, strategic processes normally require versatile groups, incorporating both individual and collectivistic competences.

Considering that people are the basic source of competitive advantage due to its potential to create core competencies ([López-Cabrales et al., 2006](#); [Chen and Chang, 2010](#)), the operationalization of the critical HR identification process is particularly complex. As [Mellahi and Collings \(2010\)](#) argued, it is unlikely that top managers would have capability to examine all employees in the organization. Therefore, to systematically analyze human capital value and uniqueness, it is necessary to have specialized, precise and objective information about employees ([Harris et al., 2011](#)). In this sense, involvement of HR executives is a key factor for the success of the HRM formulation process, particularly at the critical HR identification stage ([Wiblen et al., 2012](#)). They actively contribute to this process because of what [Bunderson \(2003\)](#) called their “expert power” in the HRM area. HR executives are normally best placed to individually collect the necessary information to assess actual human capital, and evaluate the strategic value and uniqueness of employees’ competences. As [Harris et al. \(2011\)](#) explained, to get this information, managers need to know specific HR metrics and tools, and to develop specialized job analyses ([Stevens, 2013](#)). Thus defined, the assessment of employee competences is a technical and individual activity,

not as deliberative or collectivistic as other stages of strategic formulation. Extant studies support this idea, suggesting individualism fosters more efficient processes for identifying critical human resources, making it easier to build clear skill maps (Klein and Hiscocks, 1994; Crossland and Hambrick, 2007). Considering these arguments we propose the following hypothesis:

H2a. An individualistic value orientation influences top management team's capability to identify critical human resources positively.

Nevertheless, we must consider that competence analysis is just one of the activities that top management teams need to develop to identify critical human resources. This process not only requires technical information and skills, but also an in-depth analysis of strategic human capital implications, exploring how core competences link to organizational capabilities and firm's competitive advantage (Hafeez and Essmail, 2007). In this second stage, the HR executive needs to interact with the rest of the members of the top management team, as Beechler and Woodward (2009) argued. In this sense, Collings and Mellahi (2009, p. 305) expressed that "talent management is too important to be left to HR alone". As a consequence of this, collaborative and collectivistic competences are also necessary to efficiently identify critical human resources. In this context, the role of the HR manager needs to be strategic and active, helping the rest of the top team to successfully align organizational capabilities with strategic requirements through an efficient evaluation of talent (Joyce and Slocum, 2012). HR managers will therefore act as a crucial connection between the technical and HR specific dimension of the process and the broader strategic analysis. Technical competencies and specialized knowledge is necessary to bring HRM to a strategic level, bridging the function with top strategic decision-making (Gunnigle and Moore, 1996; Gilmore and Williams, 2007). Collectivism implies interdependence, which allows managers to implement efficient communication, involving multiple functional profiles in strategy formulation (Hofstede, 1994). A collectivistic discussion of the core competences identified within the organization, exploring their links to firm's strategic capabilities, will help to create a talent management culture, fostering a shared understanding of what the organizations considers *critical* human capital (Ulrich and Smallwood, 2007).

In conclusion, we suggest that the identification of critical human capital during HRM strategy formulation does not only requires an individualistic orientation to identify core competences, but also a collectivistic orientation to complete the holistic analysis about how core competences link to firm's strategy. Considering this, we propose the following:

H2a. A collectivistic value orientation influences top management team's capability to identify critical human resources positively.

Empirical analysis

Quantitative data were collected using a self-administered questionnaire distributed to a sample of 290 Spanish HR

executives. Contacts were obtained in 2013 from AEDIPE's (Spanish Association of HR Managers) database. The survey was designed to gather information regarding various stages of HRM strategy formulation. HR managers were asked to evaluate how their top management teams made specific strategic human resource management decisions. We assumed that HR managers were part of top management teams and that they actively participated in strategic decision-making. Being aware of the limitations of this approach, we have implemented both *ex-ante* and *ex-post* actions to assess and minimize information bias problems. Firstly, we introduced a specific item in the survey to assure that all the HR executives who responded the questionnaire knew and participated in the HRM strategy formulation process. 90% of the respondents confirmed that they actively participated in HR decisions, as members of the top management team. To assure data consistency, we only considered in the analysis those responses in which the HR manager reported to be part of the top management team.

The items of the questionnaire were designed following Fowler (2002) and Johnson and Harris (2002) recommendations to maximize scale validity and reliability. We were aware that the length and complexity of the survey might reduce responses, but we preferred to use complete and validated scales. With this, we tried to assure the quality of data although risking fewer valid cases. 120 responses were obtained, and although small, the sample allowed us to measure constructs reliably and analyze relationships among them.

Control variables

Before starting the empirical analysis of the model, we performed specific tests to control for the potential bias introduced by sampling procedures. With these analyses, we tried to verify that the sample ($n = 120$) was representative of the entire population ($N = 290$), and that it was proportionally distributed in terms of two grouping variables that we could measure for all the firms in the population. An ANOVA analysis was performed to control size differences. Results obtained confirmed that mean differences were not statistically significant ($F = 0.299$; $\text{sig} = 0.597$), so we could conclude that the sample was representative of the population. Something similar happened to what sector differences mean. In this case, a χ^2 analysis confirmed that the firms that responded our questionnaire were proportionally distributed in terms of sector ($\chi^2 = 1.910$; $\text{sig} = 0.385$).

Common method bias control

Considering the nature of our model and dataset, we paid particular attention to controlling for common method bias (CMB). Following Podsakoff et al.'s (2003) recommendations, we developed two different actions: (1) procedural remedies, considering potential biases in the design of the study and, (2) specific statistical tools to assess the extent to which the data obtained are affected by CMB.

We explained HR executives the mechanisms developed to ensure the anonymity of their responses. Trying to reduce their apprehension, we included an introductory paragraph in the survey to explain the objective of the study and ensure

Table 1 Correlations and constructs validation statistics.

	COG	VAL	ICHR	Cronbach's alpha
COG	.674			.883
VAL	.311	.494		.727
ICHR	.409	.248	.809	.950

Statistics in the diagonal of the matrix represent the squared root of AVE values for each of the constructs, used to assess discriminant validity.

that the data obtained would only be used for academic purposes. With this, we tried to avoid socially desirable, lenient or acquiescent opinions (Podsakoff et al., 2003, p. 888). We also paid particular attention to the measures selected. As it will be explained below, validated scales were used to measure the different constructs in our model. The scales were selected considering Tourangeau et al. (1991) criteria, avoiding ambiguous or unclear items, vague concepts and complex wording.

Additionally, we performed specific analyses to control for CMB: (1) Harman's single-factor test, (2) Unmeasured Latent Method Construct (ULMC) and, (3) analysis of correlations.

According to Podsakoff et al.'s (2003) recommendations, we performed an exploratory factor analysis to determine the number of factors necessary to explain the proposed variables (Podsakoff et al., 2003, p. 889). Several factors were obtained from the unrotated factor solution. The higher covariance accounted for the first extracted factor was 35.46%. This result indicated that CMB might not be a serious concern in our study. Nevertheless, Harman's single factor test has been criticized by empirical literature, because of its limitations for controlling CMB. Therefore, we decided to perform more complex statistical analyses.

In a second stage of our CMB analysis, we applied Podsakoff's ULMC technique. Considering the particularities of our model, we had to follow the specific PLS approach described by Liang et al. (2007) and Vance et al. (2008). First, we converted individual items into single indicator constructs. As noted in previous research, a single-indicator latent variable determined by an exogenous variable should be equivalent to an indicator of the exogenous variable. In this context, the regression coefficient between the two variables can be interpreted as a factor loading (Marcoulides and Moustaki, 2002, p. 90). Following Liang et al. (2007, p. 87), we had to change some of the constructs in our model, introducing all of them as reflective constructs, as the ULMC technique requires. Results indicated that substantive factors loadings are all significant and the average variance explained by the original indicators in the model was higher than the average variance obtained for the method construct (Vance et al., 2008). Nevertheless, these results need to be considered with caution, because of the risks of using hypothesized relationships (CMB-substantive indicators) to assess the precision of the conclusions obtained (Richardson et al., 2009). Considering this, we also assessed discriminant validity by comparing variables correlations with the squared root of AVE values for each of the constructs (Table 1). Evidence showed that each construct represents a singular dimension of the model. As it is observed in Table 1,

none of the correlations obtained exceeded the commonly accepted cut-off value of 0.90. As Pavlou et al. (2007) explained, this result suggests that CMB is not significantly influencing the analyses developed.

Measures and methods

A Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used to obtain information concerning manager perceptions. Validity was assessed using Cronbach's alpha coefficient (Table 1), which indicates internal consistency and reliability. The test was conducted using Partial Least Squares (PLS), a structural equation model (SEM) method designed for small samples (Chin, 1995, 2010).

Cognitive competencies (COG). This construct was measured with the Cognitive Style Inventory (ConINV), a widely used scale that is applied and validated in many organizational contexts. This instrument assessed cognitive competencies by measuring two independent dimensions: rationality and creativeness. Items were taken from Cools and Van Den Broeck (2007), comprised of 18 items, 11 for rational style and 7 for creative style.). Following House et al. (1995) and Leonard et al. (2005), we adapted the original individual scale to the group level, with the objective to capture the way in which top management teams (including the HR executive) developed the analysis of firm's strategic human capital. As Leonard et al. (2005, p. 123) explained, "it is possible to utilize theories developed at one levels of analysis (e.g. individual decisions making models) to understand a similar phenomenon at another level of analysis (e.g. group and/or organizational decision level). Examples of the 7-point Likert scales introduced to measure cognitive capabilities are: "The top management team makes detailed analyses", "The top management team prefers to look for creative solutions" or "The top management teams tries to avoid routine". Due to the formative nature of this construct, multicollinearity of the items was analyzed (Table 2). Variance Inflation Factors (VIF) values were all below 5, so we could confirm that the measures were not affected by multicollinearity (Allison, 1999; Diamantopoulos et al., 2008).

Values' orientation (VAL). Top managers' value orientation was measured by defining two independent dimensions: individualism and collectivism (Tyran and Gibson, 2008). A seven-item, validated scale from Earley (1994) was used (4 items for collectivism and 3 for individualism). Examples of these items, introduced in the questionnaire as 7-point Likert scales are: "Top management team members like to work in group rather than by themselves", "Top management team members accept group decisions even when they personally have a different opinion" or "Problems solved by the group as a whole provide better results than problems that are individually solved". VIF values were also calculated in this case (Table 2). Results for this construct confirmed that no multicollinearity problems existed, as all items showed VIF values below 5.

Identification of critical HR (ICHR). To measure the dependent variable in our model, (top management teams' capability to identify critical human resources) we adapted Lepak and Snell's (2002) scale. These authors provided a widely accepted construct to assess human capital. The

Table 2 Empirical analysis: measurement and structural model.

Measurement model assessment					
Latent construct		Original Parameters	Bootstrap resampling		Variance inflation factors
			Mean of the parameter in the subsamples (standard derivation)	<i>t</i>	VIFs
<i>Cognitive capability (COG)-formative construct</i>					
CREA	Creativity	.883***	.892 (.074)	11.92	2.27
RAT	Rationality	.214**	.190 (.118)	1.81	1.43
<i>Value orientation (VAL)-formative construct</i>					
COL	Collectivism	1.01***	1.00 (.039)	25.91	1.60
IND	Individualism	.125	.1730 (.186)	.672	1.06
<i>Ability to identify critical HR (ICHR)-formative construct</i>					
STRVAL	Strategic Value	.548***	.509 (.176)	3.10	2.06
UNIQ	Uniqueness	.564***	.592 (.173)	3.24	2.08
Structural model assessment					
Latent constructs		<i>R</i> ²	Blindfolding <i>Q</i> ²	β	Resampling Bootstrap <i>t</i> -value
ICHR	COG	.507	.442	.613***	6.09
	VAL			.157*	1.43

t-values significant at: **p* < 0.1; ***p* < 0.05; ****p* < 0.01.

objective of this paper is not to directly measure strategic human capital, but analyze the process through which top management teams identify it. To do so, a new measure is proposed. Trying to make it consistent with previous literature, we have maintained the structure of the construct proposed by Lepak and Snell (2002). In this sense, an item has been introduced in the questionnaire for each of the original variables in Lepak and Snell's (2002) scale. Trying to keep the original meaning of the different measures to assess value and uniqueness, just the heading of each question has been changed, asking HR managers to what extent they believe that the top management team is able to identify valuable and unique characteristics in employees. Examples of these 22 items are: "The top management team is able to identify those employees whose skills are instrumental for creating innovation", "The top management team is able to identify those employees whose skills create customer value" or "The top management team is able to identify those employees whose skills are not widely available in the labor market". As previous measures, these items were also introduced as 7-point Likert scales. Variance inflation statistics (VIF) showed that this construct was not affected by multicollinearity.

Results

Test of the measurement model

Considering the nature of the constructs described before, all indicators measuring them were introduced in a formative sense (Fig. 1). To assess the measurement model, we explored the significance of the weights of each indicator, with the objective of verifying their relevance in estimating their respective constructs. Regarding top management's capability to identify critical HR, *t*-statistics provided from a bootstrapped resampling method verified the relevance of the two dimensions: (1) capacity to perceive and analyze human capital's strategic value (*t* = 3.10, *p* < 0.01) and (2) capacity to evaluate human capital uniqueness (*t* = 3.24, *p* < 0.01). *T*-statistics for the cognitive capability construct also confirmed the relevance of the two dimensions: (1) creativity (*t* = 11.92, *p* < 0.01) and (2) rationality (*t* = 1.81, *p* < 0.05). For value orientation, we obtained a low though positive weight for individualism, and collectivism demonstrated satisfactory weights. The bootstrapped resampling statistics confirmed the influence of only one dimension. Collectivistic orientation showed higher relevance (*t* = 25.91, *p* < 0.01). Table 2 shows that correlations

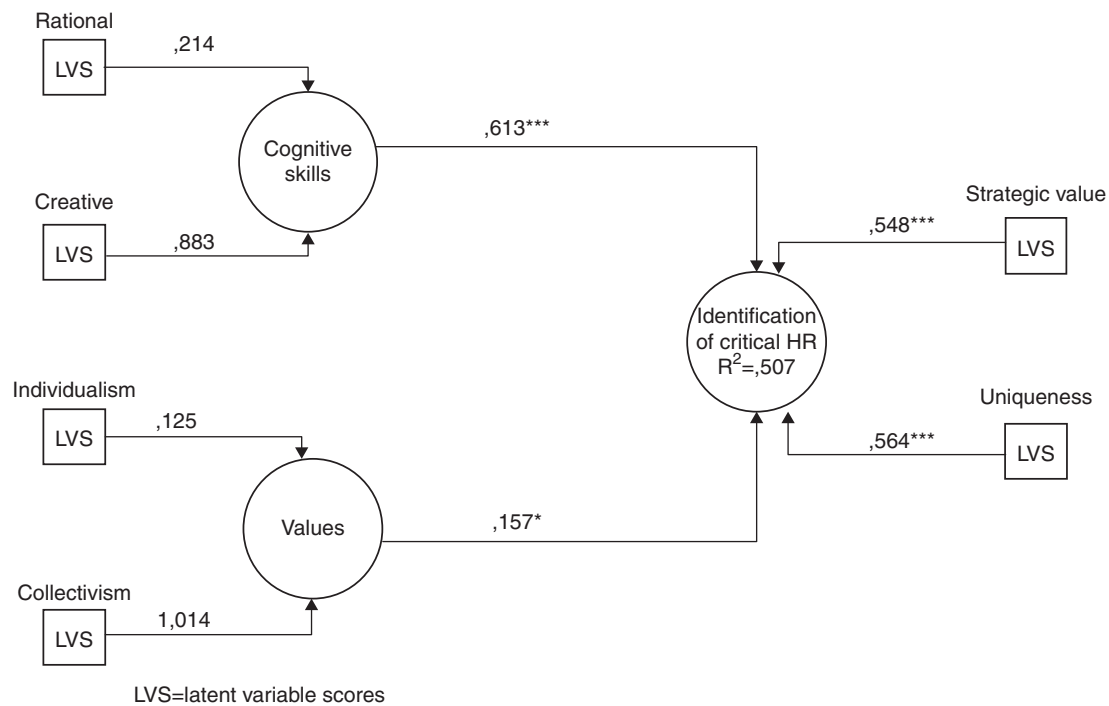


Figure 1 Empirical analysis of the effect of human capital on top management teams' capability to identify critical human resources. *t*-values significant at: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

between pairs of constructs did not exceed the squared root of AVE indexes, so discriminant validity was supported. Results suggested that constructs measured singular realities, and their respective indicators did not link with other latent variables.

Test of the structural model

Path coefficients suggested a strong, positive influence of cognitive skills on critical HR identification ($\beta = 0.613$, $p < 0.01$). Results also showed a positive relationship between value orientation and top managers' capability to identify core employees ($\beta = 0.157$, $p < 0.1$). Regarding cognitive competencies, results only supported one of the hypotheses. The data allowed us to conclude a positive influence on rational style (H1b), but also provided additional information concerning cognitive competencies. The coefficient associated with creative cognitive style was also positive. These findings might suggest a combination of cognitive skills was required at the critical HR identification stage. That is, diverse cognitive teams could be necessary to correctly identify strategic human capital.

On the other hand, bootstrapped resampling statistics indicated that value orientation influences top managers' ability during identification, but similarly to previous hypotheses, results differed from our theoretical model, supporting only the positive influence of collectivistic patterns. We concluded that in identification of core employees individualistic efforts are not relevant, as we expected (H2a). However, collaborative and deliberative capabilities to analyze and specify human capital competencies were required.

The structural model explained 50.7% of variance ($R^2 = 0.507$) (Fig. 1). The predictive capacity of the model was also verified, with $Q^2 > 0$. Results supported initial argument regarding the positive influence of human capital characteristics on top managers' capabilities to develop this portion of HRM strategy. However, peculiarities arose from structural analysis. Cognitive dimensions (i.e., creative and rational) had positive loadings, confirming that they are independent constructs. We conclude that a degree of cognitive diversity was required since both styles could be compatible and may be deployed simultaneously (Cools and Van Den Broeck, 2007). Nevertheless, collectivistic and individualistic behaviors were not combined. Results suggested clear dominance of collectivistic orientation during critical HR identification.

Conclusions, limitations, and future research

The purpose of this study is to analyze the effects of top managers' human capital attributes on an important stage of the HRM strategy formulation. We examine the influence of cognitive skills (H1a and H1b) and value orientation (H2a and H2b) on managers' capability to identify critical HR. Empirical evidence supports the importance of cognitive styles and the influence of value orientation. Results verify some of our theoretical assumptions and suggest core employee identification is more complex than expected.

Regarding cognitive skills, results just provide partial support for our hypotheses. Empirical evidence shows that rational competences alone are insufficient to efficiently identify core employees. Their positive effect is confirmed, suggesting that rational skills help top management teams

to obtain objective and precise information about organizational human capital. Nevertheless, the flexible and intuitive cognitive skills that characterize the creative cognitive profile also seem to be necessary to identify core employees. In this sense, authors such as Wible et al. (2012, p. 430) have recently pointed out that "the role of 'seeing' talent is at times combined with more objective and formally measured techniques, often generated by technology".

These arguments entail it is necessary to go beyond traditional and rational task-based analyses. The competency-based approach demands more intense cognitive effort to assess employees' competencies holistically. Soderquist et al. (2010, p. 341) describe the process as "a complex and organizational endeavor, which requires a careful methodological approach to ensure strategic and operational relevance, ability to implement, acceptance in the organization, reliability of the procedures and validity of the results."

Despite the rational nature of identification and assessment of critical HR, objective and formal processes alone do not allow managers to succeed in this part of HRM strategy formulation. Extant studies suggest that objective measures and procedures, as traditional job analysis are needed in a first stage of the critical HR identification (Campion et al., 2011). However, they offer a simplified and limited vision that does not help managers to explore the complex strategic implications of core competences (Sandberg, 2000; Chen and Chang, 2010). Critical HR identification must link HRM and business strategies, integrating strategic planning and core competency examinations (Yang et al., 2006). Deeper analysis seems necessary, including aspects such as organizational context (i.e., routines, technologies, and HRM systems), firm needs, and the environmental context (Yang et al., 2006; Clardy, 2008a; Chen and Chang, 2010). In doing so, managers will successfully align organizational capabilities with strategic requirements by implementing integrated actions to identify strategic employees. Therefore, a combination of both cognitive styles is necessary to conduct this analysis, and the rational profile is particularly helpful to implement systemic and automatic activities, as job description analyses (Soderquist et al., 2010; Campion et al., 2011) the elaboration of lists of core competences (Hafeez and Essmail, 2007). The creative profile provides skills to integrate core competences into HRM strategies holistically, helping to design HRM systems able to create and maintain human capital based competitive advantages (Soderquist et al., 2010, p. 342).

Regarding the value orientation, we found that a collectivistic orientation improves managers' capability to identify critical HR. These results suggest individual activities developed by HR executives have to be complemented by other collectivistic efforts to integrate technical HR information into strategic deliberation. Organizational human capital analysis is necessary to connect HRM and business strategies (Yang et al., 2006; Soderquist et al., 2010), a strategic process that requires assessment of many variables, including business strategy orientation, HRM policies, organizational routines, technologies, and labor regulation (Chadwick, 2010; Marchington et al., 2011). It demands not only comprehensive analysis of these aspects, but also deliberative

and cooperative decision-making to integrate information from a holistic perspective (Hough and Ogilvie, 2005).

Another argument to explain the importance of collectivistic orientation relates to HR directors' involvement in strategic decision-making dynamics. The literature argued for over two decades the need to have a seat on the board for HR professionals as a method to move from a traditional administrative HR role to a modern and strategic function (Guest and Bryson, 2009). Sealy et al. (2009) note the topic remains a debate in the literature regarding effective integration of HR managers into strategic formulation. Mere presence of HR managers in top management teams does not always contribute to decision-making strategically (Wright et al., 1998; Caldwell, 2011). Our results suggest an HR executive cannot make HRM-related decisions individually; he/she must be shaped collectively (Sheehan, 2005). A new, multifaceted, collectivistic role is demanded to integrate HR into strategic processes, sharing HR decisions among executives from disparate organizational functions (Wright et al., 1998; Ulrich et al., 2009).

We conclude that critical HR identification needs to be developed at the team level, because of the strategic relevance of the process, and the intense cognitive and integrative efforts it requires. As it has been defined, the process cannot be developed at the functional level, within the HR department. The strategic connections of the core employees' identification process require a broader perspective, which needs to be addressed by top management teams. These results support literature that suggests strategic change of the HR function is taking place, moving the function out of the HR department (Caldwell, 2011). Recent studies call for a new focus on the analysis of HR managers' roles and their links to other managerial positions. Such analyses provide a clearer vision of the technical and strategic role of HR executives and their value in top management teams as facilitators of HR-related analyses (Gilmore and Williams, 2007).

Findings from this study should be considered with the following limitations. Data collection focused on single respondents, assuming HR directors possess sufficient knowledge regarding HRM and strategic processes. We also consider some possible biases and information problems. In this sense, to minimize the risks of using a single respondent we have controlled for the potential effect of CMB using the specific statistical analyses. However, the limitations derived from self-reported measures demand to consider results with caution (Podsakoff and Organ, 1986). Due to participation of one respondent per firm, we were unable to compare management members' perceptions. Future studies should adapt the questionnaire to multiple respondents per venue to confirm results from a group perspective. The research design did not allow us to introduce organizational performance measures, which could have been useful to assess the outcomes of the process. As confidentiality was assured for respondents, we could not cross our dataset with any other database containing objective secondary data about firms' performance. We are also aware of limitations derived from sample size. The complexity and length of the complete survey did not allow us to obtain a bigger sample, so results need to be interpreted and extrapolated cautiously. However, the methods permit us to have confidence in the reliability and validity of measures, and

PLS allowed us to analyze the structure of the data, leading to conclusions about the way managers identify critical HR.

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